THE TARHEEL WASHOE

December 35

THE REGIONAL DIRECTOR'S MESSAGE

The statement, "Land conservation is no longer a theory; it is a fact," has become popular. It is a statement of fact, but it is a fact which comparatively few people know. For every person who knows that erosion can be controlled there are scores of others who regard such a thing as just another theory.

There are millions of people in America and thousands in this state who are familiar with the erosion control program; yet there are tens of thousands in North Carolina who know nothing of how to control erosion or how to put their land to its proper use. It is that latter group that we must convince of the need of conserving the soil.

By the very nature of its origin -- the conditions which brought about its creation -- and its work since establishment, the Soil Conservation Service is fundamentally an educational movement. It is an indiscriminant educational task, aimed to reach the entire populace, since all of society is envolved in the problem of conserving national resources so that future generations will have a "fighting chance" with nature.

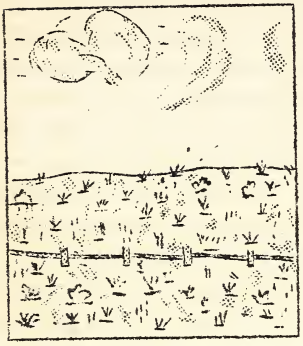
It is the duty of the Service to show the farmer wherein the practices which he has employed for years on his farm are wrong. When the farmer is convinced that a change is needed and expresses a desire to institute a system of proper land use, including necessary erosion - control measures, it is our job to work out a program for that farm

which will meet the demands of that particularly farm. After the program has been worked out for the individual farm, always in cooperation with the farmer, then the task of training the farmer how to carry out the program confronts us. Soils experts, agronomists, engineers, foresters, and wildlife conservationists must all prove to the landowner the value of their work, and the fundamental problem of each is educational - to convince the farmer that a change is necessary, to show how the land conservation program will stand the test, then to train (or teach) the cooperator the means of carrying out the program - that is certainly an educational movement.

Every cooperator is therefore requested to assist in this work by "spreading the good news" to others. The objective of the erosion control program is to make the entire American population aware of the menace which is threatening our national existence. The most effective means of accomplishing that objective is by the assistance of the landowners who have had work done on their farm. "By their works ye shall know them." Then, if our work deserves it, cooperators, tell your neighbors. If there are complaints to be made, notify the Soil Conservation Service first, because the Service is always ready to rectify any situation which may have gone amiss due to the erosion-control program.

-- J. H. Stallings --

VEGETATIVE EROSION CONTROL



A good rotation not only reduces erosion one-half to two-thirds but adds and maintains an additional supply of organic matter in the soil. It also aids in the maintenance of soil nitrogen supply, keeps the land occupied a greater part of the time with crops, allows for crop alternation, helps to regulate plant nutrients from the soil, systematizes farming, increases crop yields and lowers the cost of production, all of which increases farm profits. A good rotation will also help to control weeds, insects and diseases.

In an experiment carried out in Missouri it was found that four years of continuous corn gave an annual soil loss of sixty tons of the best and most productive soil and a 27% runoff of water. With a three-year rotation, similar to that which we use largely in the Deep River Area - corn, small grain, followed by two hay crops - it was found in Missouri that the rotation reduced the sixty-ton soil loss to 3.74 tons annually.

Of the 29,000 acres of cultivated land under agreement in the Deep River Area, 6,920 acres have been established in rotation,

and proper rotations have been started on approximately 20,000 acres more.

Approximately 3,000 acres of strip-cropping have been established and approximately 5,000 acres planned. In controlling erosion strip-cropping plays a very important part. In fact, it is fields. This method consists of planting strips of densely growing or fibrous rooted crops between strips of clean-tilled crops, along the contour of the land. Farmers who have not tried this method of erosion control will find it easy, practical and effective.

Also, in the Area 1,300 acres of new pasture have been established and on 575 acres of old pasture improvements have been made. The larger part of this acreage was land too steep for practical cultivation of crops and had eroded beyond the point of economical production of row crops.

This land was seeded to pasture for two principal reasons: First, land seeded down to pasture mixtures will reduce erosion to the minimum. It has been found that the soil loss on pasture lands in many cases has been less than a ton per acre annually, and in some instances the run-off (rainfall loss) is less than two per cent. Second, the sod holds the water and the decaying grass and legume roots keep the soil porous and creates a favorable condition for the absorption of moisture.

The usefulness of pasture grasses is not only in preserving soil resources, but also in protecting storage reservoirs from destruc-

tion through the gradual accumulation of silt.

In addition to losing less soil by erosion than cultivated land, well-managed pasture land loses less fertility because less is taken from the soil by pasture plants. Part of that which is removed is restored directly through the excrement of grazing animals.

The pasture mixture that we have used is composed of a mixture of grasses and legumes as follows: 6 lbs. of Korean lespedeza, 6 lbs. of common lespedeza, 9 lbs. of orchard grass, 4 lbs. of Italian rye grass, 2 lbs. of alsike clover, 3 lbs. of Dallas grass, 4 lbs. of red top, 2 lbs. of white Dutch clover and 4 lbs. of Kentucky grass.

The agronomy department recommends this mixture at the rate of 40 lbs. per acre and from one to two tons of lime, from 400 to 800 lbs. of 4-10-4 fertilizer.

Pasture grasses, which are rich in proteins, minerals, and vitamins, are valuable in maintaining the health and productivity of livestock. There have been 1,343 acres of permanent hay established, which, like the pasture mixture, will reduce erosion to a minimum. There have been 310 acres of gullies have been seeded in the area.

To date 582,000 square yards of grass mixture have been seeded for waterway protection in terrace outlets, meadow strips and outlet ditches. These waterways are seeded strips or ditches to form a sod.

Soil acidity may be evidenced in many ways. The presence of the plant "sheep sorrell" is an indication of sour soil. Sorrell will grow on either acid or alkaline soil. On alkaline soil there is almost always enough other vegetation to crowd it out, while on acid soil it has very few competitors. When red clover fails to make growth on soils where it formerly thrived, the trouble is likely to be acid soil. Decrease in crop production and thinner soils is still another indication of sour soils.

Several tests can be made to determine soil acidity with a fairly high degree of accuracy. Among these are the litmus paper test and other chemical tests. An application of lime either in the form of oxide of lime or carbonate of lime tends to correct this acidity or "sweeten" the soil and add new life.

Although the correction of acidity may be the most commonly spoken of effect of lime, it may not be the most important effect in every case. Land that is not acid may have an adequate supply of organic matter but lacks sufficient bacterial growth to decompose it. Lime not only stimulates the decomposition of this organic matter, but also tends to increase the availibility of other minerals in the soil.

Sometimes heavy dry soils, especially when it is low in organic matter, become packed and close. A field in this condition

is hard to plow or cultivate. During rains most of the water runs off and carries a load of good soil with it.

A good application of lime will improve the physical condition of land of this type by causing small particles of soil to "floculate" giving it a more granular structure.

We must not overlook the fact that the principle element in lime is calcium, a much needed plant food element. Lime also contains magnesium, a very effective element in correcting soil acidity.

The Soil Conservation Service has found that on every farm in the demonstrational areas that has been signed up there is need of lime. The Soil Conservation Service has furnished lime on practically all of these farms, totaling 2,966 tons. About half this amount has been distributed over fields of lespedeza, clover mixtures, hay mixtures, pastures and alfalfa strips. The rate of distribution per acre is as follows: Lespedeza, 1 ton; pasture mixtures, 1½ tons; hay mixtures, 1½ tons, clover mixtures, 2 tons; and alfalfa, 4 tons.

There are several different forms of lime; ground limestone, burnt lime, and hydrated lime. The form to be used depends upon the convenience of hauling, cost, etc. Ground limestone is one of the best forms of lime on the market. The Soil Conservation Service is using this form. A good application of ground limestone will last several years.

P.J. & G.F.

DESIRED GOALS FOR FARM HOMES

Running water and a sink in every farm kitchen.

oOo

Proper disposal of waste in farm homes.

oOo

Every house properly lighted, ventilated and screened.

oOo

The home comfortably and conveniently heated.

oOo

Milk served in the farm home three times daily.

oOo

Convenient access to good roads, good schools, good churches and wholesome recreational play grounds.

oOo

Each farmer to grow or secure a pure seed supply of known variety and origin to adequately supply the farm needs.

oOo

Each farm to use only good individuals of pure breeds and strains of livestock for the farm needs.

oOo

Each home to be provided with magazines, papers and books suited to the ages of the various members of the family.

oOo

Beautiful lawns, shrubs, trees, paint, equipment and machinery for home use.

BELIEVE IT (OR NOT)

Jimmy - "Do nuts grow on trees, daddy?"

Dad - "They do, Jimmy."

Jimmy - "Then daddy, tell me what tree the doughnut grows on?"

To All Recent Benedicts

The Public Relations Department advises all just "has-beens" to give their ladies with new names the finest set of chinaware purchasable for New Year. This means "Safety First" and "Conservation."

Mr. D. - "My wife comes home from the Post Office too tired for words."

Mr. R. - "Gosh! Do you suppose my wife could get a job in that office?"

Caught

"I don't want any callers this afternoon," said the tired executive to the office boy. "If they say their business is important just tell them that's what they all say."

That afternoon a lady called and insisted on seeing him. "I am his wife," she exclaimed.

"That's what they all say," said the office boy.

She - "This cookery book is just full of mistakes."

He - "I know; I've tasted 'em."

EDITORIALS

THE TARHEEL WASHOFF

PUBLISHED MONTHLY BY THE DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE NORTH CAROLINA AREA

FEDERAL BUILDING - High Point, N. C.
Regional Director - Dr. J. H. Stallings
Editor - Forney A. Rankin

Vol. III December 1935 No. 3

SOIL EROSION MENACE
(A Reprint)

"A CONTINUANCE of the manner in which the soil, the mainstay of individual and collective life, is now being squandered, the United States has left to it less than one hundred years of virile national existence. If we are to win out against the accelerated progress of this gangrenous growth of soil erosion, then we have less than twenty years to build up the techniques, to recruit the fighting personnel

and, most difficult of all, to change the attitudes of millions of people who hold that ownership of land carries with it the right to mistreat, and even to destroy their land, regardless of the effect on the total national estate."

These were the words of Morris L. Cooke, consulting engineer, at the annual convention of the American Water Works Association. That such a serious situation exists is perhaps not generally realized.

The Soil Conservation Service of the United States Department of Agriculture and other organizations are making headway with the problem, but unless they are given the whole-hearted support of everyone concerned, their efforts will not be sufficient.

The importance of the drainage structures under and along our roadways and streets in aggravating or preventing erosion is well brought out in one of the articles in this issue. It is infinitely better to prevent this erosion than to try to remedy its effects after it has occurred.

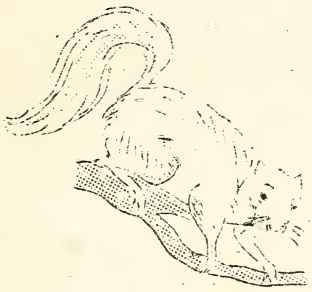
---- The HIGHWAY Magazine ---
December - 1935

"The land shall not be sold forever: For the land is mine; for ye are strangers and sojourners with me." (Leviticus 25: 23)

"And in all the land of your possessions ye shall grant a redemption for the land." (Lev. 25: 24)

Is it not commanded that as a collective body of people we should conserve the soil for the future?

WILDLIFE CONSERVATION IN 4 H CLUB WORK



Wildlife conservation in 4 H work is practically a new and untried experiment in this part of the country, but there is every reason to believe that it can and will succeed.

All farm boys and girls are fond of birds, trees, and flowers, and many enjoy the thrills of hunting quail, rabbits and possums. The efforts of boys and girls to improve the farm environment for wildlife will help to preserve and increase the supply of game animals and song birds.

4 H club workers can do a number of things to improve the farm environment for wildlife. The first step is a complete survey of the farm or chosen territory to determine food and cover conditions and the kind and numbers of species. A rough map can be drawn on which the present conditions are shown. This map is then used as a basis for planning the development of the wildlife environment.

Odd corners, creek and ditch banks planted with food bearing shrubs and trees and lespedeza sown on bare spots will increase food and

cover conditions. Gullies and eroded spots which are reclaimed by the planting of shrubs are useful to wildlife, as well as beautifying an unsightly spot.

Inexpensive earth dams can be used to create fish ponds on small creeks. Such areas can be used for fishing, swimming, and boating. Fish for stocking purposes may be obtained from the Department of Conservation and Development.

Papers on some phase of conservation could be prepared and presented at each meeting of the club. Such papers could be based on personal observation, experience, and available bulletins. Many bulletins containing valuable information may be obtained from the Department of Agriculture and State Department through the county agent and state 4 H club office.

The Soil Conservation Service in its program of wise land use is attempting to improve the wildlife conditions on many of the farms, but it will be impossible to improve every farm. It will, therefore, be necessary for the boys and girls to take an active interest in the wildlife on their own farms.

The wildlife department of the Soil Conservation Service is anxious to cooperate with anyone interested in improving the wildlife environment on his farm. An invitation is extended to look over any field work being done by the Soil Conservation Service in your neighborhood.

H.J.R.

GULLIES AND HOW TO CONTROL THEM

The area in the Deep River Project where we find our worst type of erosion is in the northwest section running south to the High Point-Jamestown road.

The gullies in this area run from six inches up to thirty and forty feet in depth. Many different types of erosion, requiring different methods of control can be found working in these gullies.

There is the small shallow type of gully, a form of sheet erosion, which can be controlled very simply. The method used on this type gully is to work the ground thoroughly either by a plough or disc. The area is then seeded to lespedeza, in the early spring, and then mulched lightly with broom sedge, hay, leaf litter or some such material. Strips of sod are also used in shallow gullies. These are placed across the gully at intervals from five to ten feet. If these gullies occur at the edge of a wood-lot, it is advisable to plant various types of shrubs, which will afford food and cover for wildlife.

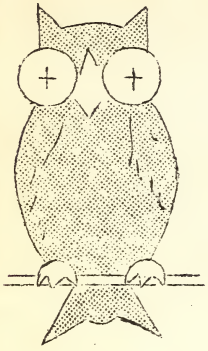
Next are the gullies from two feet to six or eight feet in depth. The

method used on this type gully is somewhat different from that used in sheet erosion. Small brush check dams are built at intervals in the channels of such big gullies. The dams are built in order to slow up the water that runs in the channel. In slowing up this water we find that soil particles are lodged in the brush, tending to form a solid bank of soil behind each brush dam. This soil is usually topsoil, much richer than the soil in the gully, and will give us a good soil in which to sow seed and plant trees.

If the gully banks are not at an angle of repose or gradual slope they are sloped with picks and mattacks. The sloping also gives some soil behind the brush checks. After the ground is broken up, we then seed the area to a gully mixture prepared by the agronomy department, if the seeding is done in the fall, and to lespedeza in the early spring. The area is then planted to trees. It is advisable to plant yellow poplar or catalpa in the richer soil behind the brush dams. The sides and tops should be planted to black locust and short or loblolly pine.

The reason for seeding the area and planting it to trees is to get a ground cover established, since this will help hold the soil from washing away. The area is covered with a light mulch as in the other case. This tends to protect the seeding and seedlings from sever climatic changes which may be detrimental to them.

BENEFICIAL QUALITIES OF HAWKS AND OWLS



Examination of hawk and owl stomachs by the Bureau of Biological Survey has shown that these three kinds feed mostly on poultry, game and song birds. The Goshawk is rare in the United States and visits here only in in the fall and winter. These other two fly very fast and capture their prey while on the wing very frequently. They are commonly called the blue darters because of their habit of making sharp turns and darts. Because of these three species a widespread hatred has formed against hawks and owls in general.

The large, slow flying hawks are for the most part beneficial since they eat large numbers of mice, rats, insects and other harmful animals. Occasionally one of these hawks will get in the habit of taking poultry and game birds, but the whole group should not be condemned because of these few.

Practically all the owls appearing in this region are much more beneficial than harmful. The screech owls and barn owls are especially beneficial and will rid the fields of many rats and mice.

G.B.B.

transformation was slow but constant. This process agonized the people and sapped the very life of the Roman nation, decreasing its population, undermining its morale, and weakening its political fabric. Erosion was responsible for these changes.

Erosion caused the Roman farmer to become indebted. As Simkhovitch wrote, "If the farmer is borrowing to meet the exigencies of a so called bad year, his distress is temporary, and he is likely to square himself during the next good year; but if his distress is due to the progressive deterioration of his farm, he will be unable to extricate himself. Such indebtedness is hopeless. The increasing weight of accumulated interest on the loan and the decreasing productivity of the land seal the fate of the landowner. He certainly is not in an economic position to increase his landholdings to a point where the larger product might supply his wants. Because he does not have enough land, what little he has will be taken from him and be given to him that hath land and economic capacity. In this way a farmer will be driven off the land and the holdings of someone else increased. This is the process of concentration of landed property." This process eliminated small farms in Italy and led to unlimited economic and political strife.

"It stands to reason that permanent desertion of the entire countrysides cannot be caused by temporary devastations of war, for war cannot rob the fields of their fertility. Exhaustion of the soil, will lead to its desertion in time of peace.....etc."

--Sooner State Conservation News--

THE PRESIDENT'S ATLANTA SPEECH

-- Excerpts --

You and I are enlisted today in a great crusade in every part of the land to cooperate with nature and not to fight her, to stop destructive floods, to prevent dust storms and the WASHING AWAY OF OUR PRECIOUS SOILS, to grow trees, to give thousands of farm families a chance to LIVE, and to seek to provide more and better food for the city dwellers of the nation.

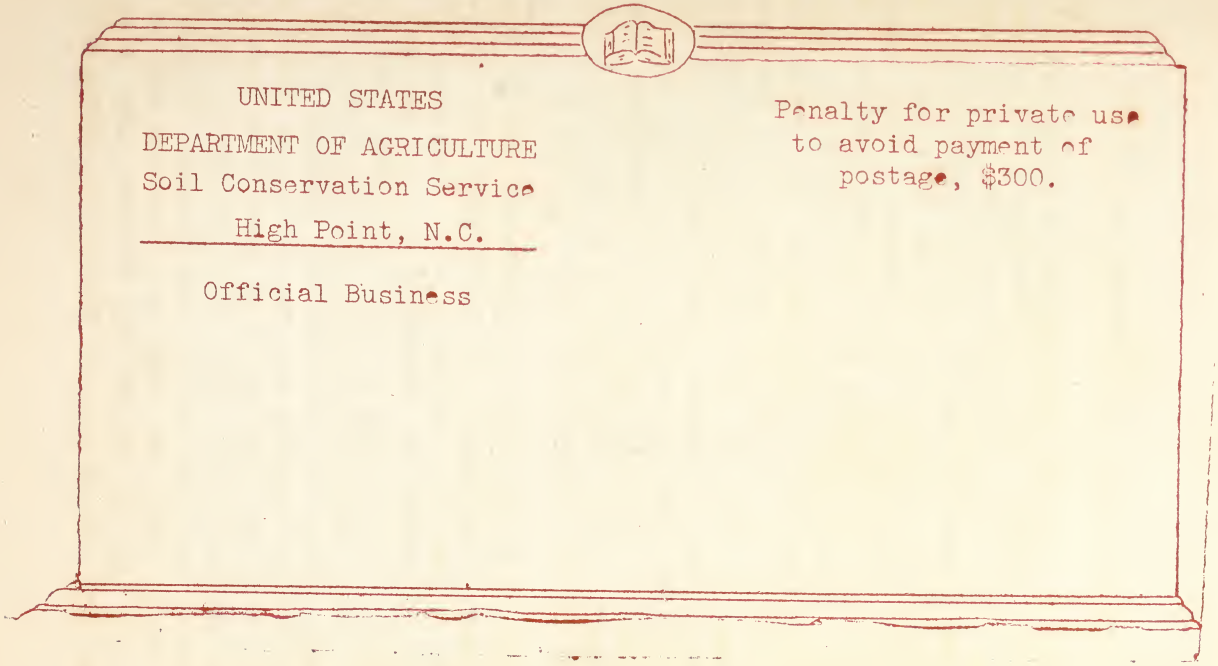
In this connection it is, I think, of interest to point out that national surveys prove that the average of our citizenship lives today on what would be called by the medical fraternity a third-class diet. If the country lived on a second-class diet, we would need to put many more acres than we use today bank into the production of foodstuffs for domestic consumption. If the nation lived on a first-class diet, we would have to put more acres than we have ever cultivated into the production of an additional supply of things for Americans to eat. Why, speaking in broad terms in following up this particular illustration, are we living on a third-class diet? For the very simple reason that the masses of the American people have not got the purchasing power to eat more and better food.

I mentioned a few weeks ago that farm income in the United States has risen since 1932 a total of nearly $3,000,000,000. That is

because wheat is selling at better than 90¢ instead of 32¢; corn at 50¢ instead of 12¢; cotton at 12¢ instead of at 4½¢, and other crops in proportion. Wonder what cotton would be selling at today if during these last three years we had continued to produce 15 or 16 or 17 million bales each year, adding to our own surplus, adding to the world surplus, and driving the cotton farmers of the South into bankruptcy and starvation. The additional $3,000,000,000 of farm income has meant the rebirth of city business, the reopening of closed factories, the doubling of automobile production, the improvement of transportation and the giving of new employment to millions of people....

I take it that it has been equally worth while to the nation to give jobs to the unemployed in the construction of a vast network of highways, including thousands of miles of farm-to-market roads, in repairing great numbers of schools and building hundreds of new ones in city and country, in helping cities to put in sewers and sewage disposal plants and waterworks; in constructing cold storage warehouses and county recreational buildings; in creating aviation fields; in giving a million boys a chance to go to CCC CAMPS and to work on forestry and on SOIL EROSION PREVENTION; in controlling malaria; in pushing health projects; in putting white collar workers into jobs of permanent usefulness to their communities, and in giving YOUTH an OPPORTUNITY for better EDUCATION.

-- Franklin D. Roosevelt --



UNITED STATES
DEPARTMENT OF AGRICULTURE
Soil Conservation Service
High Point, N.C.

Official Business

Penalty for private use
to avoid payment of
postage, $300.